EXPRESS MAIL LABEL NO.: EV 333999985 US

	Attorney Docket	IRVN-009CON
INFORMATION	First Named Inventor	KEIRSTEAD, HANS S.
DISCLOSURE STATEMENT	Application Number	Not Yet Assigned
DISCEOSURE STATEMENT	Confirmation No.	Not Yet Assigned
	Filing Date	Herewith
Address to:	Group Art Unit	Not Yet Assigned
Mail Stop: Patent Application Commissioner for Patents	Examiner Name	Not Yet Assigned
P.O. Box 1450 Alexandria, VA 22313-1450	Title: "OLIGODENDROCYTES DERIVED FROM HUMAN EMBRYONIC STEM CELLS FOR REMYELINATION AND TREATMENT OF SPICORD INJURY"	

Sir:

This is an Information Disclosure Statement submitted for the Examiner's consideration. A Form PTO-SB/08A listing the references and copies of the cited references accompany this paper. Applicants would appreciate the Examiner's initialing and returning the form to indicate that the references have been reviewed and made of record.

All of the references identified herein were disclosed in parent application serial number 10/406,817, filed 4/4/2003 and as such, copies thereof are not included pursuant to the provisions of 37 CFR § 1.98(d).

This Information Disclosure Statement is not intended as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that any one of the above references constitutes prior art to the present application within the meaning of 35 U.S.C.§102.

As applicants have not yet received a first Action on the merits, no fee is believed to be required for filing this Disclosure Statement. If, however, the PTO finds that for some reason a fee is due, our Deposit Account No. 50-0815, Order No. IRVN-009CON may be charged thereon.

Respectfully submitted, BOZICEVIC, FIELD & FRANCIS LLP

BOZICEVIC, FIELD & FRANCIS LLP

200 Middlefield Road, Suite 200 Menlo Park, CA 94025

Telephone: (650) 327-3400 Facsimile: (650) 327-3231

· — · · ·

Registration No. 36 51

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute	e for form 1449A/PTO			C	Complete if Known
ļ				Application Number	To B Assigned
i	INFORMATION DISCL	OS	JRE	Filing Date	Herewith
ŀ	STATEMENT BY APP	LIC	ANT	First Named Inventor	Keirstead, et al.
				Group Art Unit	To Be Assigned
L	(use as many sheets as ne	cessa	γ)	Examiner Name	To Be Assigned
Sheet	1	of	4	Attorney Docket Number	IRVN-009CON

			U.S. PATENT DOCU	MENTS	
Examin er Initials'	Cite No.1	U.S. Patent Documents Number Kind Code (if known)	Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, columns, lines, Where Relevant Passages or Relevant Figures Appear
		5,654,183	Anderson, et al.	08-05-1997	
		5,753,506	Johe	05-19-1998	
		5,830,621	Suzuki, et al.	11-03-1998	
		5,830,651	Cauley, et al.	11-03-1998	
		5,849,553	Anderson, et al.	12-15-1998	
		5,851,832	Weiss, et al.	12-22-1998	
		5,968,829	Carpenter	10-19-1999	
		6,090,622	Gearhart, et al.	07-18-2000	
		6,200,806	Thomson	03-13-2001	
		6,235,537	North, et al.	05-22-2001	
		6,238,922	Uchida	05-29-2001	
		6,245,564	Goldman, et al.	06-12-2001	

	_	F0	DREIGN PATENT DOCUME	NTS		
Examiner Initials'	Cite No.1	Foreign Patent Documents Office ³ Number ⁴ Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T°
		2,253,078	Steeves	10-28-1998		
		WO 97/07200	Barres	02-27-1997		
	_	WO 97/32608	McKinnon	02-28-1997		
		WO 98/50526	Rao, et al.	11-12-1998		
		WO 99/01159	Rao, et al.	01-14-1999		
		WO 99/20741	Bodnar, et al.	04-29-1999		
		WO 00/23571	Goldman, et al.	04-27-2000		
		WO 01/28342	PCT	04-26-2001		
		WO 01/51610	Long, et al.	07-19-2001		
		WO 01/68815	Pera, et al.	09-20-2001		
		WO 01/88104	Carpenter	11-22-2001		
Examiner Signature	T		<u> </u>	Date Considered		

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Substitute	for form 1449A/PTO			C	omplete if Known		
				Application Number		To Be Assigned	
	INFORMATION DI	SCLOS	URE	Filing Date		Herewith	
	STATEMENT BY A	ANT	First Named Inventor		Keirstead, et al.		
				Group Art Unit		To Be Assigned	
	(use as many sheets a	s necessa	(v)	Examiner Name		To Be Assigned	
Sheet	2	of	4	Attorney Docket Num	ber	IRVN-009CON	
	WO 01/98463		Pera	12	-27-2001		

		OTHER PRIOR ART—NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
	e e	ARSENIJEVIC, et al. "Isolation of multipotent neural precursors residing in the cortex of the adult human brain", <i>Exp. Neuro.</i> , (2001) Vol. 170: 48-62.	
		BAIN, et al. "Neuron-like cells derived in culture from P19 embryonal carcinoma and embryonic stem cells", <i>Article</i> , pp.1-13.	
		BARRES, et al. "A novel role from thyroid hormone, glucocorticoids and retinoic acid in timing oligodendrocyte development", <i>Development</i> , (1994) Vol. 120: 1097-1108.	
		BLAKEMORE, et al. "The origin of remyelinating cells in the central nervous system", <i>J. Neuroimmunology</i> , (1999) Vol. 98: 69-76.	
		BOTTENSTIEN. "Growth requirements in vitro of oligodendrocyte cell lines and neonatal rat brain oligodendrocytes", <i>Proc. Natl. Acad. Sci. USA</i> , (1986) Vol. 83(6): 1955-1959.	
		BRÜSTLE, et al. "In vitro-generated neural precursors participate in mammalian brain development", Proc. Natl. Acad. Sci. USA, (1997) Vol. 94: 14809-14814.	
		BRÜSTLE, et al. "Embryonic stem cell-derived glial precursors: A source of myelinating transplants", <i>Science</i> , (1999) Vol. 285: 754-756.	
		CARPENTER, et al. "Dopaminergic neurons and proliferation-competent precursor cells for treating Parkinson's disease", <i>Int'l Patent Application PCT/US02/19477</i> .	
	ſ	CHANDROSS, et al. "Tracking oligodendrocytes during development and regeneration", <i>Microsci. Res. Tech.</i> , (2001) Vol. 52(6): 766-777.	
		CHEN, et al. "Gene transfer and expression in oligodendrocytes under the control of myelin basic protein transcriptional control region mediated by adeno-associated virus", <i>Gene Ther.</i> , (1998) Vol. 5(1): 50-58.	
		ECCLESTON, et al. "The differentiation of oligodendrocytes in a serum-free hormone-supplemented medium", <i>Brain Res.</i> , (1984) Vol. 318(1): 1-9.	
		FRAICHARD, et al. "In vitro differentiation of embryonic stem cells into glial cells and functional neurons", <i>J. Cell Sci.</i> , (1995) Vol. 108: 3181-3188.	
		GOTTLIEB, et al. "An in vitro pathway from embryonic stem cells to neurons and glia", Cells Tissues Organs, (1999) Vol. 165(3-4): 165-172.	
		GU, et al. "Selenium is required for normal upregulation of myelin genes in differentiating oligodendrocytes", <i>J. Neurosci. Res.</i> , (1997) Vol. 47(6): 626-635.	

Examiner		Date	
Signature	<u></u>	Considered	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

	e for form 1449A/PTO				Complete if Known
Ì	INFORMATION DIS		unc.	Application Number	To Be Assigned
	INFORMATION DIS			Filing Date	Herewith
1	STATEMENT BY A	PPLIC	ANT	First Named Inventor	Keirstead, et al.
1				Group Art Unit	To Be Assigned
	(use as many sheets as	necessa	pr)	Examiner Name	To Be Assigned
Sheet	3	of	4	Attorney Docket Number	IRVN-009CON

GUAN, et al. "Embryonic stem cell-derived neurogenesis. Retinoic acid induction and lineage selection of neuronal cells", <i>Cell Tissue Res.</i> , (2001) Vol. 305(2): 171-176.
HINKS, et al. "Depletion of endogenous oligodendrocyte progenitors rather than increased availability of survival factors is a likely explanation for enhanced survival of transplanted oligodendrocyte progenitors in X-irradiated compared to normal CNS", Neuropath. Appl. Neurobio., (2001) Vol. 27: 59-67.
HOLLAND. "Gliomagenesis: Genetic alterations and mouse models", Nat. Rev. Genet., (2001) Vol. 2(2): 120-129.
KEIRSTEAD, et al. "In vivo immunological suppression of spinal cord myelin development", Brain Res. Bulletin, (1997) Vol. 44(6): 727-734.
KEIRSTEAD, et al. "Identification of post-mitotic oligodendrocytes incapable of remyelination within the demyelinated adult spinal cord", <i>J. Neuropath. Exp. Neurology</i> , (1997) Vol. 56(11): 1191-1201.
KEIRSTEAD, et al. "A quantifiable model of axonal regeneration in the demyelinated adult rat spinal cord", <i>Exp. Neurol.</i> , (1998) Vol. 151: 303-313.
KEIRSTEAD, et al. "Response of the oligodendrocyte progenitor cell population (defined by NG2 labelling) to demyelination of the adult spinal cord", <i>GLIA</i> , (1998) Vol. 22: 161-170.
KEIRSTEAD, et al. "The role of oligodendrocytes and oligodendrocyte progenitors in CNS remyelination", <i>Adv. Exp. Med. Biol.</i> , (1999) Vol. 468: 183-197.
KEIRSTEAD, et al. "Polysialylated neural cell adhesion molecule-positive CNS precursors generate both oligodendrocytes and schwann cells to remyelinate the CNS after transplantation", <i>J. Neurosci.</i> , (1999) Vol. 19(17): 7529-7536.
KEIRSTEAD. "Stem cell transplantation into the central nervous system and the control of differentiation", <i>J. Neurosci. Res.</i> , (2001) Vol. 63: 233-236.
KORNBLUM, et al. "Molecular markers in CNS stem cell research: Hitting a moving target", Nature Reviews, (2001) Vol. 2: 843-846.
LEE, et al. "Efficient generation of midbrain and hindbrain neurons from mouse embryonic stem cells", <i>Nature Biotech.</i> , (2000) Vol. 18: 675-678.
LI, et al. "Generation of purified neural precursors from embryonic stem cells by lineage selection", <i>Curr. Bio.</i> , (1998) Vol. 8: 971-974.
LIU, et al. "Embryonic stem cells differentiate into oligodendrocytes and myelinate in culture and after spinal cord transplantation", <i>Proc. Natl. Acad. Sci. USA</i> , (2000) Vol. 97(11): 6126-6131.
MCDONALD, et al. "Transplanted embryonic stem cells survive, differentiate and promote recovery in injured rat spinal cord", <i>Nature Med.</i> , (1999) Vol. 5(12): 1410-1412.
MUJTABA, et al. "Lineage-restricted neural precursors can be isolated from both the mouse neural tube and cultured ES cells", <i>Dev. Bio.</i> , (1999) Vol. 214: 113-127.

Examiner	Date	
Signature	Considered	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Approved for use through 10/31/2002. OMB 0651-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number,

Substitute	e for form 1449A/PTO			C	Complete if Known
ļ				Application Number	To Be Assigned
	INFORMATION DISCL	.osi	JRE	Filing Date	Herewith
1	STATEMENT BY APP	LIC	ANT	First Named Inventor	Keirstead, et al.
l				Group Art Unit	To Be Assigned
	(use as many sheets as ne	essa	y)	Examiner Name	To Be Assigned
Sheet	4	of	4	Attorney Docket Number	IRVN-009CON

O'SHEA. "Neuronal differentiation of mouse embryonic stem cells: Lineage selection and forced differentiation paradigms", <i>Blood Cells, Molecules and Diseases</i> , (2001) Vol. 27(3): 705-712.	
OSTENFELD, et al. "Regional specification of rodent and human neurospheres", <i>Brain Res. Dev. Brain Res.</i> , (2002) Vol. 134(1-2): 43-55.	
PARDO, et al. "Differentiation of rat striatal embryonic stem cells in vitro: Monolayer culture vs. three-dimensional coculture with differentiated brain cells", <i>J. Neurosci. Res</i> , (2000) Vol. 59(4): 504-512.	
PARK, et al. "Transplantation of neural progenitor and stem cells: Developmental insights may suggest new therapies for spinal cord and other CNS dysfunction", <i>J. Neurotrauma</i> , (1999) Vol. 16(8): 675-687.	
REUBINOFF, et al. "Neural progenitors from human embryonic stem cells", <i>Nat. Biotechnol.</i> , (2001) Vol. 19(12): 1134-1140.	
SCOLDING, et al. "Oligodendrocyte progenitors are present in the normal adult human CNS and in the lesions of multiple sclerosis", <i>Brain</i> , (1998) Vol. 121: 2221-2228.	
SCOLDING, et al. "Identification of A2B5-positive putative oligodendrocyte progenitor cells and A2B5-positive astrocytes in adult human white matter", <i>Neuroscience</i> , (1999) Vol. 89(1): 1-4.	
SVENDSEN, et al. "A new method for the rapid and long term growth of human neural precursor cells", <i>J. Neurosci. Meth.</i> , (1998) Vol. 85: 141-152.	
THOMSON, et al. "Neural differentiation of rhesus embryonic stem cells", APMIS, (1998) Vol. 106: 149-157.	
THOMSON, et al. "Embryonic Stem Cell Lines Derived From Human Blastocysts" Science, (1998) Vol. 282 (5391):1145.	
XU, et al. "Feeder-free growth of undifferentiated human embryonic stem cells", Biotechnol., (2001) Vol. 19: 971-974.	
ZHANG, et al. "In vitro differentiation of transplantable neural precursors from human embryonic stem cells", Nature Biotech., (2001) Vol. 19: 1129-1133.	

I	Examiner	Date	i
١	Signature	Considered	<u> </u>

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.